

What is claimed is:

1. An irrigation sprinkler for uniformly watering a target area comprising:
a sprinkler body;
a nozzle disposed on said sprinkler body;
said nozzle comprising a substantially hollow, cylindrically shaped body having a first end, a second end and a flow passageway extending therebetween surrounded by an internal wall; and
a plurality of stepped, radial offsets formed along said internal wall such that an internal diameter of said nozzle decreases from said first end to said second end of said nozzle.
2. The irrigation sprinkler of claim 1 wherein said nozzle is removable from said sprinkler body.
3. The irrigation sprinkler of claim 1 further including at least one fin formed along said internal wall to reduce fluid turbulence.
4. The irrigation sprinkler of claim 3 wherein said fin is aligned parallel to fluid flow.
5. The irrigation sprinkler of claim 1 wherein said first end is attached to a fluid source.
6. The irrigation sprinkler of claim 1 wherein said second end is attached to a fluid source.
7. The irrigation sprinkler of claim 1 wherein said stepped radial offsets are arranged at various angles to decrease a boundary layer of fluid within said nozzle.

8. An irrigation sprinkler for uniformly watering a target area comprising:
a sprinkler body;
a nozzle disposed on said sprinkler body;
said nozzle comprising a substantially hollow, cylindrically shaped body
having a first end, a second end and a flow passageway extending therebetween
surrounded by an internal wall;
a plurality of stepped, radial offsets formed along said internal wall such that
an internal diameter of said nozzle decreases from said first end to said second end of said
nozzle; and
at least one fin formed along said internal wall to reduce fluid turbulence.
9. The irrigation sprinkler of claim 8 wherein said nozzle is removable from said
sprinkler body.
10. The irrigation sprinkler of claim 8 wherein said fin is aligned parallel to fluid
flow.
11. The irrigation sprinkler of claim 8 wherein said first end is attached to a fluid
source.
12. The irrigation sprinkler of claim 8 wherein said second end is attached to a
fluid source.
13. The irrigation sprinkler of claim 8 wherein said stepped radial offsets are
arranged at various angles to increase a boundary layer of fluid within said nozzle.
14. The irrigation sprinkler of claim 8 wherein said stepped radial offsets are
arranged at various angles to decrease a boundary layer of fluid within said nozzle.

15. The irrigation sprinkler of claim wherein said boundary layer flows at a rate less than a centerline fluid velocity.
16. A method of uniformly watering a target area comprising:
providing a sprinkler attached to a fluid source;
introducing fluid from said fluid source to said sprinkler;
urging said fluid to an exit of said sprinkler; and
increasing a boundary layer thickness of said fluid as it exits said sprinkler by urging said fluid through a stepped internal surface along said exit.
17. The method of claim 16 further comprising maximizing a throw radius of said sprinkler by maintaining boundary layer fluid flow at a rate less than centerline velocity.
18. The method of claim 17 further comprising producing even water distribution over said throw radius.
19. The method of claim 16 further comprising providing at least one fin formed along said stepped internal surface to reduce fluid turbulence.
20. The method of claim 19 further comprising providing a nozzle within said exit of said sprinkler to form a water stream projecting from one said of said sprinkler.